Quality Manual

Quality Experimentation & Evaluation Group (QE2)

Revision 2
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Approved for release: Chief, Quality Experimentation & Evaluation Group

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QE2 QUALITY MANUAL

1. SCOPE

1.1 Purpose. This Quality Manual describes the requirements, procedures, and policies set forth to ensure that the Quality Experimentation and Evaluation Group's (QE2) quality management system can be understood and administered throughout the organization. This manual applies to the specified QE2 facilities and associated workforce located at Picatinny Arsenal, New Jersey. Tests and evaluations are conducted in accordance with customer directions, manufacturers recommendations and regulatory guidance. Items included in the QE2 test and evaluation process may be received from the government labs, other government agencies or directly from a contractor.

1.2 Quality Management System. A quality management system has been developed for the QE2 process. This quality system applies to the QE2 Group to include the specified operational processes located within the QE2 test areas. This quality system complies with International Organization for Standards (ISO) 9003, 1994.

1.3 ISO Numbering. This manual is structured using the numbering system of the "Quality System Requirements" of ISO 9003. Each paragraph contains a general outline of the plans and actions to comply with the stated requirements of the standard.

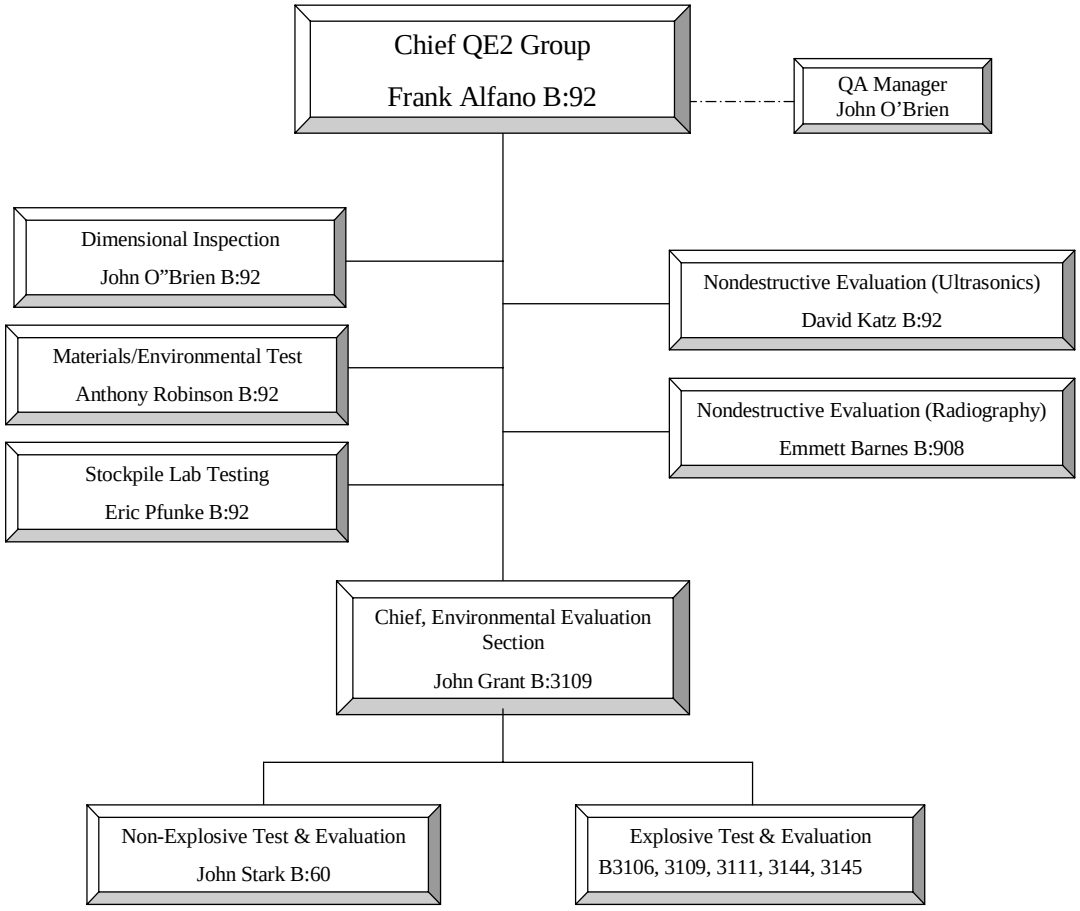
1.4 Description of Organization. The QE2 is located at Picatinny Arsenal, New Jersey. It is composed of laboratory, test and evaluation facilities staffed with a multidiscipline workforce available to assist armament engineers and the private sector in environmental test and evaluation, materials testing, dimensional inspection, stockpile laboratory testing, and nondestructive evaluation. The Group is composed of engineers, physicists, technicians, and quality assurance specialists with a broad knowledge of armament and munitions programs and test and evaluation disciplines. The QE2's organizational structure, with functional Work Area Leaders identified, is shown in Figure 1.

2. REFERENCES

2.1 Reference Documents. The following documents or their American Equivalent to the Q9000 series may be necessary in order to clearly understand the quality system.

2.1.1 ISO 8402 Quality Vocabulary
2.1.2 ISO 9000 Quality Management and QA Standards Guide for Selection and Use
2.1.3 ISO 9003 Quality Systems - Model for Quality Assurance in Final Inspection and Test
2.1.4 ISO 9004 Quality Management and Quality System Elements - Guidelines
2.1.5 ISO 1001 Guidelines for Auditing Quality Systems
2.1.6 TB 750-25 DA Bulletin, Maintenance of Supplies and Equipment Army TMDE, Calibration and Repair Support Program

Figure 1. QE2 Organization Chart



3. DEFINITIONS

3.1 ISO 8402 - Quality Vocabulary will apply.

3.1.1 Compliance Audit - The examination or review of a service or process to determine whether procedures and work instructions are fully implemented and result in the output of compliance with customer requirements.

3.1.2 Corrective Action - Action taken to correct a deficiency and to eliminate the causes of an existing undesirable condition in order to minimize or prevent its recurrence.

3.1.3 External Support Organizations - Those organizations that supply products or services but are not in the scope of the quality system.

3.1.4 Objective Quality Evidence (OQE) - Any statement of fact, information, or record, either quantitative or qualitative, pertaining to the quality of an item or service based on observations, measurements, or tests that can be verified.

3.1.5 Quality - The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

3.1.6 Quality Assurance - All planned and systematic actions necessary to provide adequate confidence that an item or a facility will perform satisfactorily in service.

3.1.7 Quality Control - The operational techniques and activities, which provide a means to control and measure the characteristics of an item, process, or facility to established requirements.

3.1.8 Scope of Work (SOW) - The specified requirements, as defined by the customer, for performing Test and Evaluation operations or service.

3.1.9 Specific Instructions - These instructions are used when a need to define a specific requirement is necessary to accomplish a specified test or evaluation. Special Instructions may occur in the form of a Work Instruction (WI), Manufacturers Operating Instructions (MOI), or a combination of the above.

3.1.10 Specification - A concise statement of a set of requirements to be satisfied by a product, a material or process indicating, whenever appropriate, the procedure by means of which it may be determined whether the requirements given are satisfied.

3.1.11 Standard - The result of a particular standardization effort approved by a recognized authority. A government or industry-endorsed description of essential characteristics of an item or activity.

3.1.12 Systems Audit – A systemic examination carried out by staff, not having responsibilities in the area to be audited, to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are effectively implemented and are suitable to achieve objectives.

3.1.13 Testing - The determination or verification of the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environmental, or operating conditions.

3.1.14 Work Instructions - Operating procedures for proper usage of test and evaluation equipment or gages. A brief set of work instructions shall be prepared and filed for each unique gage, tester, or other measurement equipment. A single work instruction may be written for each family of similar equipment.

3.1.15 Verification - An act of confirming, substantiating, and assuring that an activity or condition has been implemented in conformance with the specified requirements.

4. QUALITY-SYSTEM REQUIREMENTS

4.1 Management Responsibility

4.1.1 Quality Policy

The Quality Experimentation and Evaluation Group is committed to providing Product Test & Evaluation and Materials Testing Services that meet customer requirements and expectations. All employees in the organization shall be trained to understand the quality policies and procedures contained in this Quality Manual and it shall be supported at all levels of the organization. This manual has been issued to all employees of the QE2 Group in hard copy, is on file in the QE2 Branch Office (Building 92) and in each Work Area, and is posted on the QED Web Page at http://qa.pica.army.mil, where employees and customers may view it.

In support of this policy, the following goals have been established:

- Establish internal and external relationships that foster communication, promote customer satisfaction, and recognize success.
- Utilize productive, cross-functional teams and train employees in the responsibility and accountability for their work process and team.
- Meet customers' expectations the first time and solicit feedback to promote improvement.

The measure of achievement of these goals shall be via the Management Review process (paragraph 4.1.3 of this Manual), customer surveys (Quality System Form QSF 4.1.0.0.1), and Internal Quality Audits (paragraph 4.17).

4.1.2 Organization

4.1.2.1 Responsibilities and Authority. The QE2 Group Chief is ultimately responsible for establishing, implementing, and maintaining the QE2 quality system. Specific responsibilities include: endorsing and supporting the quality policy, defining the organization, assigning authorities and responsibilities, periodically reviewing the quality system, and making available the resources and personnel necessary to maintain the system.

4.1.2.1.1 Project Representatives: The QE2 Group Chief has authorized Project Representatives to have the organizational freedom and authority to plan and conduct test and evaluation programs to include: Review and, if required, formulate SOW requirements with the customer(s), develop cost estimates, and conduct the test/evaluation in accordance with customer requirements. During the SOW review and pre-test planning, the Project Representative will identify and assure that all required equipment, facilities, and trained personnel are available to perform the required quality system functions. Authorized QE2 Project Representatives are listed on QSF 4.3.1.0.2.

4.1.2.1.2 Work Area Leaders: These individuals have team leader status within their functional areas (identified on the organizational chart in Figure 1.) in addition to the duties and responsibilities of the Project Representatives.

4.1.2.1.3 Quality Assurance Manager: The QE2 Group Chief has appointed a Quality Assurance Manager (QAM) as his management representative with authority for ensuring the quality system is maintained. The responsibility of the Quality Assurance Manager may also include liaison with external parties on matters relating to the Quality System. The QAM shall report to the QE2 Group Chief on the performance of the Quality System in order to evaluate and determine the need for improvement of the System.

4.1.3 Management Review. The management review process is accomplished in accordance with Quality System Procedure (QSP) 4.1.3. The Chief, QE2 and the Quality Assurance Manager will meet quarterly to review and assess the performance of the Quality System. The QA Manager shall present data on quality reviews, internal audits, customer commendations, customer complaints, and corrective action summaries at this meeting. Appropriate action plans will be generated and implemented in order to preclude the reoccurrence of any nonconformities relating to service, work process, and the quality system. The Quality Assurance Manager will verify implementation of these solutions. All records will be maintained on file in the QE2 Branch Office.

4.2 QUALITY SYSTEM

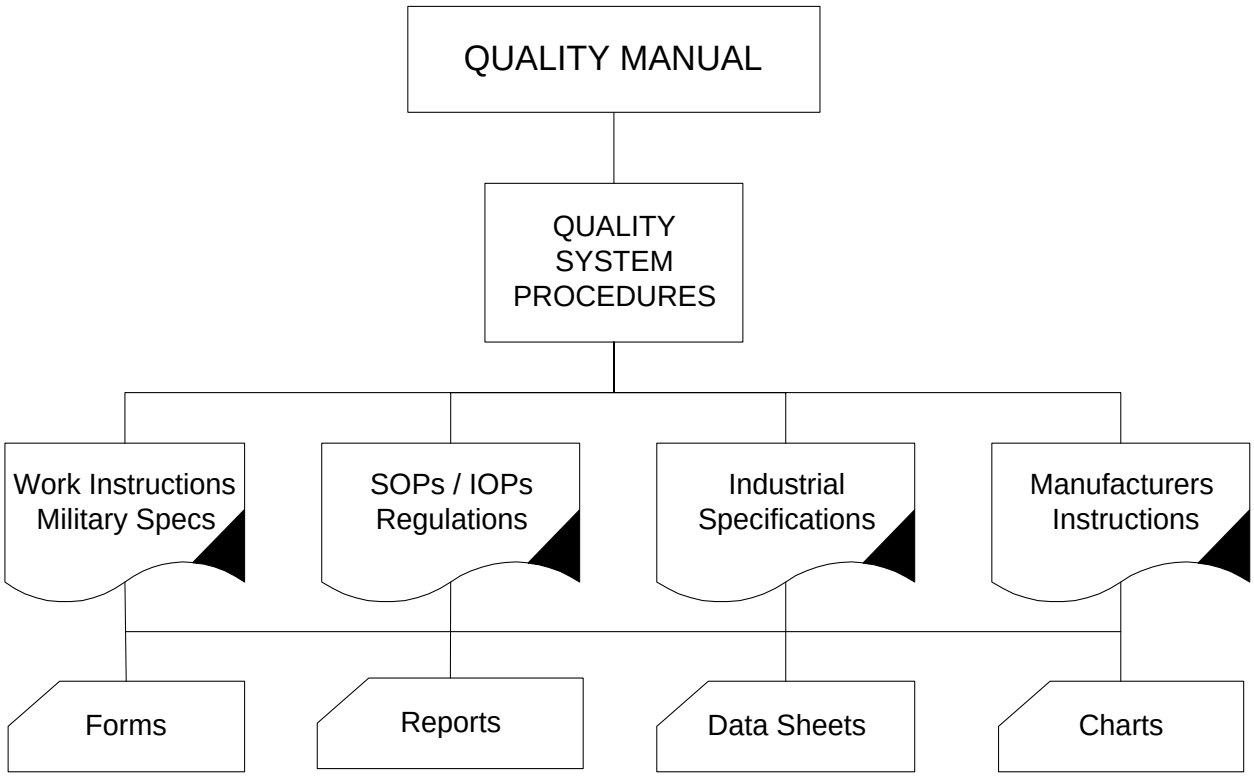
4.2.1 General. QE2 has established, documented, and implemented a quality system to ensure that our services meet customer specified requirements. We have prepared this Quality Manual to provide the outline of that system, and describe how it is organized and documented. Each element of this manual will provide a brief outline of how we meet the requirements and provide reference to the procedures, where required. Our documented quality system is managed and maintained via a combination of electronic media and hard copy distribution, as explained in QSP 4.2.1 (Preparation and Control of Quality System Documentation) and QSP 4.5.1 (Document and Data Control). The structure of the documentation used in the quality system is best demonstrated by the illustration in Figure 2.

4.2.2 Quality System Procedures. All procedures and instructions are prepared in the detail required by the complexity of the task and the skill of the personnel who perform the task, in accordance with QSP 4.2.1. QE2's Quality System includes the following types of documentation:

4.2.2.1 Quality Policy Manual
4.2.2.2 Quality System Procedures
4.2.2.3 Work Instructions
4.2.2.4 Military Specifications
4.2.2.5 Industrial Specifications
4.2.2.6 Operating Instructions or Manufacturer's Instructions
4.2.2.7 Regulations

4.2.2.8 Standard Operating Procedures (SOPs)
4.2.2.9 Internal Operating Procedures (IOPs)
4.2.2.10 Quality Records Objective Quality Evidence in the form of check sheets, test sheets, or inspection sheets.

Figure 2
(QE2 Document Structure for ISO 9003)



4.2.3 <u>Quality Planning.</u> Quality planning is accomplished in accordance with the Contract Review procedure described in paragraph 4.3 of this manual. The specific quality requirements for a contract or customer order are included as a part of the Specific Instructions or Work Instructions that will be in place prior to initiation of a test or evaluation. The following activities are considered in meeting the specified requirements for services:

4.2.3.1 The identification of any controls, processes, equipment, fixtures, resources, and skills that may be needed to achieve the required output.
4.2.3.2 Ensuring the compatibility of the inspection and test procedures, and the applicable documentation.
4.2.3.3 Updating, as necessary, the inspection, and testing techniques.
4.2.3.4 The identification of any measurement requirement involving capability that

exceeds the known state of the art.

4.2.3.5 The clarification of standards of acceptability for all features and requirements, including those that contain a subjective element.

4.2.3.6 The identification and preparation of quality records.

4.3 CONTRACT REVIEW.

4.3.1 General. QE2 has developed a review procedure that assures the requirements of each customer's service request (scope of work, etc.) are reviewed by the appropriate personnel to confirm that they are clear, understandable, and properly define the quality requirements. As part of this review, QE2 assures that any problems with the customer-supplied documentation, instructions, or requirements are discussed beforehand, and that the organization has the capability to properly perform the particular task or service. Records of these reviews are maintained in a job/program file (hard copies in Bldgs. 60, 92, and 3109 Area; electronic files in Bldg. 908). When the job is completed, any additional records (inspection/test data sheets, reports, etc.) containing the results of the task or service are stored with the job file.

4.3.2 Reviews. The Project Representative is responsible for reviewing and coordinating contracts, customer orders and any related actions. These reviews shall be accomplished in accordance with Contract Review Procedure QSP 4.3.1. Product-specific instructions are covered in QSP 4.3.2. The Project Representative will review customer orders to ensure the following:

4.3.2.1 The requirements are adequately defined and documented (where no written statement of requirement is available for an order received by verbal means, the Project Representative shall ensure that the order requirements are agreed upon and documented on a QE2 Job Sheet or e-mail before their acceptance).

4.3.2.2 Any irregularities with customer-supplied documentation are resolved before the job is started.

4.3.2.3 The QE2 test facility has the capability to meet the customer order requirements.

4.3.3 Amendments to Contracts. Amendments to contracts shall be reviewed and accepted by the Project Representative or Work Area Leader. The agreed upon changes shall be annotated on the customer order documentation.

4.3.4 Records. Records of Contract Reviews shall be maintained in accordance with paragraph 4.16 of this Quality Manual.

4.4 DESIGN CONTROL.

The scope of this manual does not include quality system requirements for design control. The QE2 is a service organization that tests and evaluates customer supplied products and materials, and as such, does not have responsibility for design control.

4.5 DOCUMENT AND DATA CONTROL

4.5.1 General.

QE2 has developed and documented procedures to assure control of documents and data that provide technical information, instructions for the test process, or support the quality system. These procedures are in Document and Data Control Procedure QSP 4.5.1. Documents and publications of external origin such as military standards, military specifications, drawings, technical publications, etc., are controlled by the proponent or issuing agency. The customer, prior to the start of testing, shall agree to the date and revision of external documents to be used.

4.5.2 Document and Data Approval and Issue.

4.5.2.1 A document control file has been established within each QE2 facility for maintaining and distributing QE2 controlled documents, procedures, and publications applicable to the mission and functions of the specific facility (i.e., radiography, explosive test and evaluation, etc.). In addition, a central document control file has been established in the QE2 Branch Office for maintaining the Master List of QE2 controlled documents. The QAM has been assigned the responsibility for maintaining this master list file and has distribution authority.

4.5.2.2 The QE2 Quality Policy Manual is also loaded on QE2's web pages of the Local Area Network (LAN) and is available in electronic format. If a hard copy is printed from this medium it will be an uncontrolled copy and should not be used until it is verified for currency by the QAM. If a controlled copy of this document is required, it can be obtained from the document control file in the QE2 Branch Office.

4.5.3 Document and Data Changes. QE2 has established and maintains a complete Master List of all quality-related documents and procedures. The master list shows the current revision status of each document maintained. This information resides in the QE2 Branch Office. The Quality Manual is also available for review on the QED Web Site. The QAM is notified of any revisions to these documents and the master list is annotated accordingly. The Chief, QE2 has sole authority to change Level I and II documents. Project Representatives may revise Level III and Level IV documents, however, the Chief, QE2 has sole authority for approval and release. The QAM assures that each QE2 facility's document control file and the web pages have been properly annotated to reflect the recent revisions. Invalid and/or obsolete documents shall be immediately destroyed.

4.6 PURCHASING.

The scope of this quality manual does not include quality system requirements for Purchasing.

4.7 CONTROL OF CUSTOMER-SUPPLED PRODUCT

4.7.1 Customer Supplied Products. Customer supplied products and materials are handled, stored, and controlled in accordance with QSP 4.7.1, Control of Customer-Supplied Product. This procedure defines the steps QE2 personnel follow to receive and maintain customer items, and report back to the customer any items that are unsuitable for test. It also includes references to regulatory guidance (ARDEC Regulations, Standard or Internal Operating Procedures, etc.) for the specific QE2 facility that is performing the test. This regulatory guidance addresses facility safety requirements for handling and storing explosives, radiation producing products, etc. These facility safety requirements represent the primary guidance for control of these types of customer products.

4.8 PRODUCT IDENTIFICATION AND TRACEABILITY

4.8.1 Product identification and traceability will be in accordance with QE2's Product Identification and Traceability Procedure QSP 4.8.1. This procedure delineates the required identification method that shall be used in order to assure the traceability of recorded parts data to the items under test/inspection.

4.8.2 Customer requests for special identification and traceability requirements shall be prepared and agreed upon prior to the start of the work effort. If the work effort requires moving customer products to more than one QE2 test area, the prime responsibility for identification and traceability remains with the QE2 Project Representative who has coordinated the work as the primary point of contact with the customer, as described in the Control of Customer Supplied Product Procedures 4.7.1.

4.9 PROCESS CONTROL. The scope of this quality manual does not include quality system requirements for process control.

4.10 INSPECTION AND TESTING

4.10.1 General. The primary mission of QE2 is to conduct measurements, inspections, tests, environmental conditioning, and evaluations of customer provided products and materials in accordance with customer directions and regulatory guidance. The work is primarily investigative in nature and is performed to provide the customer with information that he/she can use to make informed decisions regarding further testing or possible reasons for failure of a test. The work seldom involves acceptance or rejection of product. Results of the tests/evaluations are reported in accordance with customer requirements or instructions. Customer jobs are normally short term (hours to weeks) and each is typically unique. Thus, a great deal of reliance is placed on the capabilities and ingenuity of the quality specialist(s), engineer(s), or scientist(s) assigned to the work. Work requiring dimensional measurements are performed with various standard measuring equipment/gages utilizing accepted commercial practice or innovative techniques. Environmental evaluations

are conducted in accordance with SOPs, with reference to equipment manufacturers literature, when necessary. Quality procedures for Inspection and Testing are documented in QSP 4.10.1.

4.10.2 Inspection Test Records. Inspection test records will consist of check sheets, computer printouts, or any other quality records required by customer instructions. The inspector/tester is identified on the appropriate inspection/test record. These records are stored via hard copy in Bldg. 60, 92, and 3109 Area, and electronically in Bldg. 908 in accordance with QSP 4.10.2. The Project Representative for the QE2 facility/work area, identified on QSF 4.3.1.0.2, has the authority to release the inspection records. These records are maintained at the QE2 facility for one year after completion of the work effort.

4.11 CONTROL OF INSPECTION, MEASURING, AND TEST EQUIPMENT

4.11.1 General. Inspection, measuring, and test equipment is controlled in accordance with QSP 4.11.1. The majority of the calibration services required by QE2 is performed by the U.S. Army Test, Measurement, and Diagnostic Equipment Activity (USATA), a government facility, with an Area Calibration Laboratory located at Tobyhanna, Pennsylvania. This facility is a supplier of calibration services for the U.S. Army. Servicing of large, stationary or unique equipment is conducted on site within the QE2 facility by the equipment manufacturer or service company. For these items, the Work Area Leader establishes a calibration interval that includes scheduled maintenance and calibration based upon manufacturer's recommendations and intended use of the equipment. Any devices not used for product verification/specification conformance are excluded from calibration and labeled "Calibration Not Required (CNR)". Infrequently used devices are calibrated only when a need arises, and are labeled with a "Calibrate Before Use (CBU)" designation. Software verification and validation tests are also the responsibility of the Work Area Leaders, and are performed in accordance with equipment manufacturers guidelines or instructions prior to the start of each customer test.

4.11.2 Control Procedure. The Area Calibration Lab at Tobyhanna, Pennsylvania is subject to audits by the Army. These audits ensure that:

4.11.2.1 Standard calibration techniques utilized are approved by the USATA.

4.11.2.2 Calibration will be traceable to the NIST.

4.11.2.3 DA Label 80 is affixed to the QE2 item to identify the calibration status.

4.11.2.4 Calibration records are maintained using the Calibration Management Information System (CALMIS) and a copy of this printout provided to the Calibration Coordinator on a monthly basis. The CALMIS listings are indexed into the following three parts: TMDE Master Listing (including CBU items), TMDE Projected Listing and TMDE Delinquent Items Listing.

4.11.2.5 Certified individuals perform the calibration/repairs.

4.11.2.6 The recall system assures equipment calibration at specified intervals.

4.12 INSPECTION AND TEST STATUS.

General. The inspection and test status of customer products and materials is controlled in accordance with the QSP 4.12.1 and Product Identification and Traceability Procedure QSP 4.8.1. These procedures ensure that the inspection and tests of customer provided parts are conducted in accordance with customer directions and regulatory guidance (ARDEC regulations, facility SOPs, etc.), and that the parts can be maintained and identified with regard to the inspections and tests performed. The work performed seldom involves acceptance or rejection of product, but rather provides the customer with information to make informed decisions regarding the need for further testing and evaluation.

4.13 CONTROL OF NONCONFORMING PRODUCT.

4.13.1 General. The control of nonconforming product is not a major task for this organization, but is addressed in QSP 4.13.1. Results of the inspections or tests are recorded on data sheets that are identifiable with the specific sample examined. All customer furnished items, including those that do not conform to specifications and requirements, are identified and, if required by the customer, segregated in this manner. A report of results and/or data sheets is passed on to the customer. Unless special arrangements have been made, all customer supplied products and materials, including the nonconforming items, are returned to the customer for final disposition.

4.13.2 Review and Disposition of Nonconforming Product. Disposition of non-conforming product is not a requirement of the QE2.

4.14 CORRECTIVE ACTION

4.14.1 General. Corrective actions are identified in three categories: customer complaints, internal audits, and worker identified problems. Formalized corrective actions are reviewed by management. Whenever possible, lessons learned from the investigation and resolution of problems or deficiencies are incorporated into the quality documentation in an effort to preclude recurrence of the problem.

4.14.2 Customer Complaints. In addition to the Customer Surveys (QSF 4.1.0.0.1), the Chief, QE2 may conduct a random, person-to-person or telephone follow-up with a customer to determine satisfaction. Customer complaints will be investigated and necessary corrective actions implemented in accordance with Corrective Action Procedure QSP 4.14.1.

4.14.3 Internal Audits. As a result of internal audits, corrective actions are requested using a Corrective Action Request Form (Number 4.14.1.0.1). This form contains a description and area location of the unsatisfactory condition or deficiency that needs to be corrected. The Work Area Leader will acknowledge, with signature, the receipt of the request form. Upon receipt of the request for corrective action the Work Area Leader, along with the person(s) who contributed to or directly caused the unsatisfactory condition/deficiency will

investigate the problem that initiated the request, take necessary corrective/preventive actions, and report those actions to the Chief, QE2 Group for audit close out. The reported actions are subject to follow-up audits to assure effectiveness/compliance for problem resolution. Documentation of corrective action is accomplished in accordance with Internal Quality Audit Procedure QSP 4.17.1.

4.14.4 Worker Identified Problems. Quality corrective actions internal to the QE2 processes are based on individual worker identification and on-the-spot correction. If on-the-spot corrective action is not feasible, the action is raised to the next level for resolution. In either case, a management review of worker identified problems and corrective actions will be conducted.

4.15 HANDLING, STORAGE, PACKAGING, PRESERVATION AND DELIVERY

4.15.1 General. QE2 controls the handling, storage, packaging, preservation and delivery of customer supplied products and material in accordance with QSP 4.15.1. This procedure also references the specific SOPs that must be followed for the handling, etc. of sensitive items (such as explosives and propellants in Bldg. 908 and Bldg. 3109 Area).

4.15.2 Handling. Flat pallets, box pallets, and special design containers are used for handling and movement of items. All items are protected prior to movement as dictated by the facility SOP or customer requirements.

4.15.3 Storage. Bulk storage of customer supplied parts and material, and internal storage within the QE2 test facility, is also controlled in accordance with facility SOPs or customer instructions. The QE2 does not provide long-term storage of customer products and material.

4.15.4 Packaging. Packaging is not performed by the QE2 test facility except, when required, to repack the material or product as shipped. Marking processes for customer supplied parts and material are controlled in accordance with Product Identification and Traceability Procedure QSP 4.8.1.

4.15.5 Preservation. Items in process are given the necessary preservation to prevent damage and/or deterioration. Sensitive items are preserved in accordance with Bldg. 908 and Bldg. 3109 Area SOPs. Items packaged by the customer facility may have detailed preservation instructions available for the individual item.

4.15.6 Delivery. The QE2 test facility does not perform product delivery. Delivery is not within the scope of the quality system.

4.16 CONTROL OF QUALITY RECORDS.

QE2 personnel will generate quality records that contain the results of product evaluation and any other specific information requested by the customer. All quality records will be legible and will be stored in a manner that they are readily retrievable and protected from damage, deterioration, or loss. Acceptable storage is electronic media (hard drive or floppy disk) or hard copy placed in labeled folders in a metal storage cabinet. The QE2 facility will maintain these records for a period of one year. The identification and maintenance of quality records is controlled in accordance with QSP 4.16.1 (Control of Quality Records).

4.17 INTERNAL QUALITY AUDITS. Internal audits provide the means to evaluate the effectiveness, accuracy, and compliance of QE2's documented quality system. They are performed by personnel independent of those having direct responsibility for the activity being audited, and are scheduled quarterly in accordance with the Internal Quality Audit Procedure QSP 4.17.1. One facility (Bldg. 60, 92, 908, or 3109 Area) is audited each quarter by checking selected elements of the quality system, resulting in a complete audit of the QE2 organization/quality system once a year. Timely corrective actions are assured through the use of assigned suspense dates for responses and formal channels of follow-up on missed responses. Follow-up audits are conducted after implementation of the corrective action to confirm both implementation and effectiveness of the actions. The audit team maintains records of all audits and follow-ups for at least three years. The results of all quality audits and any resulting corrective actions will be presented and discussed during the management reviews, defined in QSP 4.1.3.

4.18 TRAINING

4.18.1 Training Needs. Training needs for the QE2 facility personnel are coordinated and obtained in accordance with the training guidance contained in the Quality Engineering Directorate policies and guidelines. For those activities affecting the quality of QE2 testing and inspection services, employee training is identified and implemented in accordance with QSP 4.18.1.

4.18.2 Training Records. Training, education and/or experience records to substantiate QE2 personnel qualifications to perform specific tasks, including the operation of laboratory/ facility equipment, are available on the Employee Record Card (SF-7-B), in the official personnel record under TAMS system, and listed on Quality System Form QSF) 4.3.1.0.2.

4.18.3 Special Skills. Special skills certification records are maintained on file in the QE2 Branch Office in Bldg. 92 and in the Bldg. 3109 Environmental Evaluation facility, and are updated when personnel skill levels have changed or when periodic re-certification for a specific skill has been accomplished. This includes re-certification for nondestructive test and evaluation skills such as magnetic particle and liquid/dye penetrant inspection. Training needs and special skills are monitored via the Management Review process, QSP 4.1.3.

4.19 SERVICING.

The scope of this manual does not include quality system requirements for servicing. The QE2 does not perform servicing.

4.20 STATISTICAL TECHNIQUES.

The scope of this manual does not include quality system requirements for statistical techniques. The QE2 does not implement statistical techniques for the acceptability of product characteristics, but rather, conducts measurements, inspections, and tests of customer provided products and materials in accordance with customer directions and regulatory guidance. Results of these inspections and tests are utilized by the customer to make informed decisions regarding product/characteristic acceptability, further testing, or possible reasons for failure of a test.